

Parameter	Units	Sample Type <sup>11</sup>	Minimum Sampling Frequency <sup>12</sup>	Required Analytical Test Method and (Minimum Level, units), respectively
Oil and Grease	mg/L	Grab <sup>15</sup>	Monthly	14
Temperature	°F	Grab	Monthly	14
Settleable Solids	mL/L	Grab <sup>15</sup>	Monthly	14
Dissolved Oxygen	mg/L	Grab	Monthly	14
Turbidity	NTU	24-hr composite	Monthly	14
Total Coliform	CFU/100mL or MPN/100mL	Grab	Monthly	14
Enterococcus	CFU/100mL or MPN/100mL	Grab	Monthly	14
Fecal Coliform	CFU/100mL or MPN/100mL	Grab	Monthly	14
Nitrate Nitrogen	mg/L	24-hour composite	Semiannually	14
Nitrite Nitrogen	mg/L	24-hour composite	Semiannually	14
Organic Nitrogen	mg/L	24-hour composite	Semiannually	14
Total Phosphorus	mg/L	24-hour composite	Semiannually	14
Arsenic	µg/L	24-hr composite	Semiannually	14
Cadmium	µg/L	24-hr composite	Semiannually	14
Chromium (VI)	µg/L	Grab	Semiannually	14
Copper <sup>16</sup>	µg/L	24-hr composite and Grab	Monthly	14
Lead	µg/L	24-hr composite	Semiannually	14

<sup>15</sup> Oil and grease, and settleable solids monitoring shall consist of a single grab sample at peak flow over a 24-hour period.

<sup>16</sup> 24-hour composite samples are used to assess compliance with the maximum daily and average monthly effluent limitations and grab samples are used to assess compliance with the instantaneous maximum effluent limitation.

Parameter	Units	Sample Type <sup>11</sup>	Minimum Sampling Frequency <sup>12</sup>	Required Analytical Test Method and (Minimum Level, units), respectively
Mercury <sup>17</sup>	µg/L	24-hr composite	Quarterly	14
Nickel	µg/L	24-hr composite	Semiannually	14
Selenium	µg/L	24-hr composite	Semiannually	14
Silver	µg/L	24-hr composite	Semiannually	14
Zinc <sup>16</sup>	µg/L	24-hr composite and Grab	Monthly	14
Cyanide	µg/L	Grab	Semiannually	14
Total Residual Chlorine <sup>16</sup>	mg/L	Grab and 24-hour composite	Monthly	14
Ammonia Nitrogen	mg/L	24-hr composite	Quarterly	14
Toxicity, Chronic	Pass or Fail (TST)	24-hr composite	Quarterly	14
	% Effect			
Phenolic compounds (non-chlorinated) <sup>18</sup>	µg/L	24-hr composite	Semiannually	14
Phenolic compounds (chlorinated) <sup>18</sup>	µg/L	24-hr composite	Semiannually	14
Endosulfan <sup>18</sup>	µg/L	24-hr composite	Semiannually	14
Endrin	µg/L	24-hr composite	Semiannually	14
HCH <sup>18</sup>	µg/L	24-hr composite	Quarterly	14
Radioactivity (including gross alpha, gross beta, combined radium-226 & radium-228, tritium, strontium-90 and uranium) <sup>19</sup>	pCi/L	24-hr composite	Semiannually	14

<sup>17</sup> USEPA Method 1631E, with a quantitation level of 0.5 ng/L, shall be used to analyze total mercury. If an alternative method with an equivalent or more sensitive method detection limit is approved in 40 CFR 136, the Discharger may use that method in lieu of USEPA Method 1631E.

<sup>18</sup> See Attachment A for definition of terms.

<sup>19</sup> Analyze these radiochemicals by the following USEPA methods: method 900.0 for gross alpha and gross beta, method 903.0 or 903.1 for radium-226, method 904.0 for radium-228, method 906.0 for tritium, method 905.0 for strontium-90, and method 908.0 for uranium. Analysis for combined radium-226 & 228 shall be conducted only if gross alpha and gross beta results for the same sample exceed 15 pCi/L or 50 pCi/L,

Parameter	Units	Sample Type <sup>11</sup>	Minimum Sampling Frequency <sup>12</sup>	Required Analytical Test Method and (Minimum Level, units), respectively
Acrolein	µg/L	Grab	Semiannually	14
Antimony	µg/L	24-hr composite	Semiannually	14
Bis(2-chloroethoxy) methane	µg/L	24-hr composite	Semiannually	14
Bis(2-chloroisopropyl) ether	µg/L	24-hr composite	Semiannually	14
Chlorobenzene	µg/L	Grab	Semiannually	14
Chromium (III)	µg/L	Grab	Semiannually	14
Di-n-butyl phthalate	µg/L	24-hr composite	Semiannually	14
Dichlorobenzenes <sup>18</sup>	µg/L	24-hr composite	Semiannually	14
Diethyl Phthalate	µg/L	24-hr composite	Semiannually	14
Dimethyl Phthalate	µg/L	24-hr composite	Semiannually	14
4,6-dinitro-2-methylphenol	µg/L	24-hr composite	Semiannually	14
2,4-dinitrophenol	µg/L	24-hr composite	Semiannually	14
Ethylbenzene	µg/L	Grab	Semiannually	14
Fluoranthene	µg/L	24-hr composite	Semiannually	14
Hexachlorocyclopentadiene	µg/L	24-hr composite	Semiannually	14
Nitrobenzene	µg/L	24-hr composite	Semiannually	14
Thallium	µg/L	24-hr composite	Semiannually	14
Toluene	µg/L	Grab	Semiannually	14
Tributyltin	ng/L	24-hr composite	Semiannually	14
1,1,1-Trichloroethane	µg/L	Grab	Semiannually	14
Acrylonitrile	µg/L	Grab	Semiannually	14
Aldrin	µg/L	24-hr composite	Semiannually	14
Benzene	µg/L	Grab	Semiannually	14
Benzidine	µg/L	24-hr composite	Semiannually	14
Beryllium	µg/L	24-hr composite	Semiannually	14
Bis(2-chloroethyl) ether	µg/L	24-hr composite	Semiannually	14

respectively. If radium-226 & 228 exceeds the stipulated criteria, then analyze for tritium, strontium-90, and uranium.

Parameter	Units	Sample Type <sup>11</sup>	Minimum Sampling Frequency <sup>12</sup>	Required Analytical Test Method and (Minimum Level, units), respectively
Bis(2-ethylhexyl) phthalate	µg/L	24-hr composite	Semiannually	14
Carbon Tetrachloride	µg/L	Grab	Semiannually	14
Chlordane <sup>18</sup>	µg/L	24-hr composite	Semiannually	14
Chlorodibromomethane	µg/L	Grab	Semiannually	14
Chloroform	µg/L	Grab	Semiannually	14
DDT <sup>18</sup>	µg/L	24-hr composite	Semiannually	14
1,4-dichlorobenzene	µg/L	24-hr composite	Semiannually	14
3,3'-dichlorobenzidine	µg/L	24-hr composite	Semiannually	14
1,2-dichloroethane	µg/L	Grab	Semiannually	14
1,1-dichloroethylene	µg/L	Grab	Semiannually	14
Dichlorobromomethane	µg/L	Grab	Semiannually	14
Dichloromethane	µg/L	Grab	Semiannually	14
1,3-Dichloropropene	µg/L	Grab	Semiannually	14
Dieldrin	µg/L	24-hr composite	Semiannually	14
2,4-dinitrotoluene	µg/L	24-hr composite	Semiannually	14
1,2-diphenylhydrazine	µg/L	24-hr composite	Semiannually	14
Halomethanes <sup>18</sup>	µg/L	Grab	Semiannually	14
Heptachlor	µg/L	24-hr composite	Quarterly	14
Heptachlor Epoxide	µg/L	24-hr composite	Quarterly	14
Hexachlorobenzene	µg/L	24-hr composite	Semiannually	14
Hexachlorobutadiene	µg/L	24-hr composite	Semiannually	14
Hexachloroethane	µg/L	24-hr composite	Semiannually	14
Isophorone	µg/L	24-hr composite	Semiannually	14
N-Nitrosodimethylamine	µg/L	24-hr composite	Semiannually	14
N-Nitrosodi-n-propylamine	µg/L	24-hr composite	Semiannually	14
N-Nitrosodiphenylamine	µg/L	24-hr composite	Semiannually	14
PAHs <sup>18</sup>	µg/L	24-hr composite	Semiannually	14
PCBs as Aroclors <sup>18</sup>	µg/L	24-hr composite	Semiannually	14

Parameter	Units	Sample Type <sup>11</sup>	Minimum Sampling Frequency <sup>12</sup>	Required Analytical Test Method and (Minimum Level, units), respectively
TCDD Equivalents <sup>18,20</sup>	pg/L	24-hr composite	Monthly	14
1,1,2,2-Tetrachloroethane	µg/L	Grab	Semiannually	14
Tetrachloroethylene	µg/L	Grab	Semiannually	14
Toxaphene	µg/L	24-hr composite	Semiannually	14
Trichloroethylene	µg/L	Grab	Semiannually	14
1,1,2-Trichloroethane	µg/L	Grab	Semiannually	14
2,4,6-Trichlorophenol	µg/L	24-hr composite	Semiannually	14
Vinyl chloride	µg/L	Grab	Semiannually	14

## V. WHOLE EFFLUENT TOXICITY TESTING REQUIREMENTS

### A. Chronic Toxicity Testing

#### 1. Discharge In-stream Waste Concentration (IWC) for Chronic Toxicity

The chronic IWC is the concentration of a pollutant or the parameter toxicity in the receiving water after mixing. The chronic toxicity IWC for Discharge Point 002 is 0.73 percent effluent.

#### 2. Sample Volume and Holding Time

The total sample volume shall be determined by the specific toxicity test method used. Sufficient sample volume shall be collected to perform the required toxicity test. For the receiving water, sufficient sample volume shall also be collected during accelerated monitoring for subsequent Toxicity Identification Evaluation (TIE) studies, if necessary, at each sampling event. All toxicity tests shall be conducted as soon as possible following sample collection. No more than 36 hours shall elapse before the conclusion of sample collection and test initiation.

#### 3. Chronic Marine Species and Test Methods

If effluent samples are collected from outfalls discharging to receiving waters with salinity >1 ppt, the Discharger shall conduct the following chronic toxicity tests on effluent samples, at the in-stream waste concentration for the discharge, in accordance with species and test methods in *Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms* (EPA/600/R-95/136, 1995). Artificial sea salts or hypersaline brine shall be used to increase sample salinity if needed. In no case shall these species be substituted with another test species unless written authorization from the Executive Officer is received.

- a. A static renewal toxicity test with the topsmelt, *Atherinops affinis* (Larval Survival and Growth Test Method 1006.0).

<sup>20</sup> USEPA Method 1613 shall be used to analyze TCDD equivalents. If an alternative method with an equivalent or more sensitive method detection limit is approved in 40 CFR 136, the Discharger may use that method in lieu of USEPA Method 1613.

- b. A static non-renewal toxicity test with the purple sea urchin, *Strongylocentrotus purpuratus*, or the sand dollar, *Dendraster excentricus* (both using Fertilization Test Method 1008.0), or a static non-renewal toxicity test with the red abalone, *Haliotis rufescens* (Larval Shell Development Test Method).
- c. A static non-renewal toxicity test with the giant kelp, *Macrocystis pyrifera* (Germination and Growth Test Method 1009.0).

4. Species Sensitivity Screening

Species sensitivity screening shall be conducted during this permit's first required sample collection. The Discharger shall collect a single effluent sample to initiate and concurrently conduct three toxicity tests using the fish, an invertebrate, and the alga species previously referenced. This sample shall also be analyzed for the parameters required on a monthly frequency for the discharge, during that given month. As allowed under the test method for the *Atherinops affinis*, a second and third sample may be collected for use as test solution renewal water as the seven-day toxicity test progresses. If the result of all three species is "Pass", then the species that exhibits the highest "Percent Effect" at the discharge IWC during species sensitivity screening shall be used for routine monitoring during the permit cycle. If only one species fails, then that species shall be used for routine monitoring during the permit cycle. Likewise, if two or more species result in "Fail", then the species that exhibits the highest "Percent Effect" at the discharge IWC during the suite of species sensitivity screening shall be used for routine monitoring during the permit cycle, until such time as a rescreening is required.

Species sensitivity rescreening is required every 24 months if there has been discharge during dry weather conditions. If the discharge is intermittent and occurs only during wet weather, rescreening is not required. If rescreening is necessary, the Discharger shall rescreen with the marine vertebrate species, a marine invertebrate species, and the alga species previously referenced, and continue to monitor with the most sensitive species. If the first suite of rescreening tests demonstrates that the same species is the most sensitive, then the rescreening does not need to include more than one suite of tests. If a different species is the most sensitive or if there is ambiguity, then the Discharger may proceed with suites of screening tests for a minimum of three, but not to exceed five suites.

During the calendar month, toxicity tests used to determine the most sensitive test species shall be reported as effluent compliance monitoring results for the chronic toxicity MDEL.

5. Quality Assurance and Additional Requirements

Quality assurance measures, instructions, and other recommendations and requirements are found in the test methods manual previously referenced. Additional requirements are specified below.

- a. The discharge is subject to determination of "Pass" or "Fail" from a chronic toxicity test using the Test of Significant Toxicity statistical t-test approach described in the *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010), Appendix A, Figure A-1, and Table A-1, and Appendix B, Table B-1. The null hypothesis ( $H_0$ ) for the TST statistical approach is: Mean discharge IWC response  $\leq 0.75 \times$  Mean control response. A test result that rejects this null hypothesis is reported as "Pass." A test result that does not reject this null hypothesis is reported as "Fail." The relative "Percent Effect" at the discharge IWC is defined and reported as:  $((\text{Mean control response} - \text{Mean discharge IWC response}) \div \text{Mean control response}) \times 100$ . This is

a t-test (formally Student's t-Test), a statistical analysis comparing two sets of replicate observations – in the case of a WET test, only two test concentrations (i.e. a control and IWC). The purpose of this statistical test is to determine if the means of the two sets of observations are different (i.e. if the IWC or receiving water concentration differs from the control (the test result is "Pass" or "Fail")). The Welch's t-test employed by the TST statistical approach is an adaptation of Student's t-test and is used with two samples having unequal variances.

- b. If the effluent toxicity test does not meet all test acceptability criteria (TAC) specified in the referenced test method Short-term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms (EPA/600/R-95/136, 1995) (see Table E-8, below), then the Discharger must re-sample and re-test within 14 days.

**Table E-4. USEPA Test Methods and Test Acceptability Criteria**

Species & USEPA Test Method Number	Test Acceptability Criteria (TAC)
Topsmelt, <i>Atherinops affinis</i> , Larval Survival and Growth Test Method 1006.01. (Table 3 of Test Method)	80% or greater survival in controls; 0.85 mg average dry weight per surviving organism in control chambers (9 day old); LC50 with copper must be $\leq 205 \mu\text{g/L}$ , <25% MSD for survival and <50% MSD for growth. If the test starts with 9-day old larvae, the mean weight per larva must exceed 0.85 milligrams in the reference and brine controls; the mean weight of preserved larvae must exceed 0.72 milligrams. (required)
Purple Sea Urchin, <i>Strongylocentrotus purpuratus</i> , and the Sand Dollar, <i>Dendraster excentricus</i> , Fertilization Test Method 1008.0 (Table 7 of Test Method)	70% or greater egg fertilization in controls, must achieve a MSD of <25%, and appropriate sperm counts. (required)
Red Abalone, <i>Haliotis rufescens</i> , Larval Shell Development Test Method (Table 3 of Test Method)	80% or greater normal shell development in the controls; must have statistical significant effect at $56 \mu\text{g/L}$ zinc and achieve a MSD of <20%. (required)
Giant Kelp, <i>Macrocystis pyrifera</i> , Germination and Growth Test Method 1009.0 (Table 3 of Test Method)	70% or greater germination in controls, $\geq 10 \mu\text{m}$ germ-tube length in controls, No Observed Effect Concentration (NOEC) must be below $35 \mu\text{g/L}$ in the reference toxicant test, and must achieve a MSD of <20% for both germination and germ-tube length in the reference toxicant. (required)

- c. Dilution water and control water, including brine controls, shall be 1- $\mu\text{m}$ -filtered uncontaminated natural seawater, hypersaline brine prepared using

uncontaminated natural seawater, or laboratory water prepared and used as specified in the test methods manual. If dilution water and control water is different from test organism culture water, then a second control using culture water shall also be used.

- d. Monthly reference toxicant testing is sufficient. All reference toxicant test results should be reviewed and reported using the EC<sub>25</sub><sup>21</sup>.
  - e. The Discharger shall perform toxicity tests on final effluent samples. Chlorine and ammonia shall not be removed from the effluent sample prior to toxicity testing, unless explicitly authorized under this section of the Monitoring and Reporting Program and the rationale is explained in the Fact Sheet (Attachment F).
6. Preparation of an Initial Investigation Toxicity Reduction Evaluation (TRE) Work Plan
- The Discharger shall prepare and submit a copy of the Discharger's initial investigation TRE work plan to the Executive Officer of the Regional Water Board for approval within 90 days of the effective date of this permit. If the Executive Officer does not disapprove the work plan within 60 days, the work plan shall become effective. The Discharger shall use USEPA manual EPA/833B-99/002 (municipal) as guidance, or the most current version. This work plan shall describe the steps that the Discharger intends to follow if toxicity is detected. At a minimum, the TRE Work Plan must contain the provisions in Attachment G. This work plan shall describe the steps that the Discharger intends to follow if toxicity is detected. At a minimum the work plan shall include:
- a. A description of the investigation and evaluation techniques that will be used to identify potential causes and sources of toxicity, effluent variability, and treatment system efficiency.
  - b. A description of the Facility's methods of maximizing in-house treatment efficiency and good housekeeping practices, and a list of all chemicals used in the operation of the Facility; and,
  - c. If a TIE is necessary, an indication of the person who would conduct the TIEs (i.e., an in-house expert or an outside contractor).

7. Accelerated Monitoring Schedule for Maximum Daily Single Result: "Fail."

The Maximum Daily single result shall be used to determine if accelerated testing needs to be conducted.

Once the Discharger becomes aware of this result, the Discharger shall implement an accelerated monitoring schedule within 5 calendar days of the receipt of the result. However, if the sample is contracted out to a commercial laboratory, the Discharger shall ensure that the first of four accelerated monitoring tests is initiated within seven calendar days of the Discharger becoming aware of the result. If the Discharger is unable to transport the collected samples off the island or if the contract lab is unable to secure organisms to conduct the toxicity test within 7 days, the Discharger may submit a written request to the Regional Water Board to delay initiation of accelerated monitoring up to an additional 7 days. The accelerated monitoring schedule shall consist of four toxicity tests (including the discharge IVC), conducted at approximately two-week intervals, over an eight-week period; in preparation for the TRE process and associated reporting, these results shall also be reported using the EC<sub>25</sub>. If each of the accelerated toxicity tests results in "Pass," the Discharger shall return to routine monitoring for the next

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<sup>21</sup> EC<sub>25</sub> is a point estimate of the toxicant concentration that would cause an observable adverse effect (e.g. death, immobilization, or serious incapacitation) in 25 percent of the test organisms.



monitoring period. If one of the accelerated toxicity tests results in "Fail," the Discharger shall immediately implement the TRE Process conditions set forth below. During accelerated monitoring schedules, only TST results ("Pass" or "Fail") for chronic toxicity tests shall be reported as effluent compliance monitoring results for the chronic toxicity MDEL.

8. Toxicity Reduction Evaluation (TRE) Process

During the TRE Process, monthly effluent monitoring shall resume and TST results ("Pass" or "Fail") for chronic toxicity tests shall be reported as effluent compliance monitoring results for the chronic toxicity MDEL.

- a. **Preparation and Implementation of Detailed TRE Work Plan.** The Discharger shall immediately initiate a TRE using, according to the type of treatment facility, USEPA manual *Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants* (EPA/833/B-99/002, 1999) and, within 15 days, submit to the Executive Officer a Detailed TRE Work Plan, which shall follow the generic Initial Investigation TRE Work Plan revised as appropriate for this toxicity event. It shall include the following information, and comply with additional conditions set by the Executive Officer:
  - i. Further actions by the Discharger to investigate, identify, and correct the causes of toxicity.
  - ii. Actions the Discharger will take to mitigate the effects of the discharge and prevent the recurrence of toxicity.
  - iii. A schedule for these actions, progress reports, and the final report.
- b. **TIE Implementation.** The Discharger may initiate a TIE as part of a TRE to identify the causes of toxicity using the same species and test method and, as guidance, USEPA manuals: *Methods for Aquatic Toxicity Identification Evaluations: Phase I Toxicity Characterization Procedures* (EPA/600/6-91/003, 1991); *Methods for Aquatic Toxicity Identification Evaluations, Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA/600/R-92/080, 1993); *Methods for Aquatic Toxicity Identification Evaluations, Phase III Toxicity Confirmation Procedures for Samples Exhibiting Acute and Chronic Toxicity* (EPA/600/R-92/081, 1993); and *Marine Toxicity Identification Evaluation (TIE): Phase I Guidance Document* (EPA/600/R-96-054, 1996). The TIE should be conducted on the species demonstrating the most sensitive toxicity response.
- c. Many recommended TRE elements parallel required or recommended efforts for source control, pollution prevention, and storm water control programs. TRE efforts should be coordinated with such efforts. As toxic substances are identified or characterized, the Discharger shall continue the TRE by determining the sources and evaluating alternative strategies for reducing or eliminating the substances from the discharge. All reasonable steps shall be taken to reduce toxicity to levels consistent with toxicity evaluation parameters.
- d. The Discharger shall continue to conduct routine effluent monitoring for compliance determination purposes while the TIE and/or TRE is taking place. Additional accelerated monitoring and TRE work plans are not required once a TRE has begun.
- e. The Regional Water Board recognizes that toxicity may be episodic and identification of causes and reduction of sources of toxicity may not be successful in

all cases. The TRE may be ended at any stage if monitoring finds there is no longer toxicity.

#### 9. Reporting

The Self-Monitoring Report (SMR) shall include a full laboratory report for each toxicity test. This report shall be prepared using the format and content of the test methods manual chapter called Report Preparation, and shall include:

- a. Test results shall be reported in percent survival for acute toxicity tests.
- b. The valid toxicity test results for the TST statistical approach, reported as "Pass" or "Fail" and "Percent Effect" at the chronic toxicity IWC for the discharge. All toxicity test results (whether identified as valid or otherwise) conducted during the calendar month shall be reported on the SMR due date specified in Table E-7.
- c. Summary water quality measurements for each toxicity test (e.g. pH, dissolved oxygen, temperature, conductivity, hardness, salinity, chlorine, ammonia).
- d. The statistical analysis used in *National Pollutant Discharge Elimination System Test of Significant Toxicity Implementation Document* (EPA 833-R-10-003, 2010) Appendix A, Figure A-1 and Table A-1, and Appendix B, Table B-1.
- e. TRE/TIE results. The Executive Officer shall be notified no later than 30 days from completion of each aspect of TRE/TIE analyses. Prior to completion of the final TIE/TRE report, the Discharger shall provide status updates in the monthly monitoring reports, indicating which TIE/TRE steps are underway and which steps have been completed.
- f. Statistical program (e.g. TST calculator, CETIS, etc.) output results, including graphical plots, for each toxicity test.
- g. Graphical plots clearly showing the laboratory's performance of the reference toxicant for the previous 20 tests and the laboratory's performance of the control mean, control standard deviation, and control coefficient of variation for the previous 12-month period.
- h. Any additional QA/QC documentation or any additional chronic toxicity-related information, upon written request of the Regional Water Board Chief Deputy Executive Officer or Executive Officer.

#### B. Ammonia Removal

1. Except with prior approval from the Executive Officer of the Regional Water Board, ammonia shall not be removed from bioassay samples. The Discharger must demonstrate the effluent toxicity is caused by ammonia because of increasing test pH when conducting the toxicity test. It is important to distinguish the potential toxic effects of ammonia from other pH sensitive chemicals, such as certain heavy metals, sulfide, and cyanide. The following may be steps to demonstrate that the toxicity is caused by ammonia and no other toxicants before the Executive Officer would allow for control of pH in the test.
  - a. There is consistent toxicity in the effluent and the maximum pH in the toxicity test is in the range to cause toxicity due to increased pH.
  - b. Chronic ammonia concentrations in the effluent are greater than 4 mg/L total ammonia.
  - c. Conduct graduated pH tests as specified in the toxicity identification evaluation methods. For example, mortality should be higher at pH 8 and lower at pH 6.

- d. Treat the effluent with a zeolite column to remove ammonia. Mortality in the zeolite treated effluent should be lower than the non-zeolite treated effluent. Then add ammonia back to the zeolite-treated samples to confirm toxicity due to ammonia.
2. When it has been demonstrated that toxicity is due to ammonia because of increasing test pH, pH may be controlled using appropriate procedures which do not significantly alter the nature of the effluent, after submitting a written request to the Regional Water Board, and receiving written permission expressing approval from the Executive Officer of the Regional Water Board.

**C. Chlorine Removal**

Except with prior approval from the Executive Officer of the Regional Water Board, chlorine shall not be removed from bioassay samples.

**VI. LAND DISCHARGE MONITORING REQUIREMENTS (NOT APPLICABLE)**

**VII. RECYCLING MONITORING REQUIREMENTS (NOT APPLICABLE)**

**VIII. RECEIVING WATER MONITORING REQUIREMENTS**

All receiving water stations shall be located by state-of-the-art navigational methods (e.g. DGPS); other means (e.g. visual triangulation, fathometer readings) may be used to improve the accuracy of locating stations.

**A. Offshore Water Quality Monitoring Location**

This monitoring is designed to determine if Ocean Plan, ASBS, and Basin Plan objectives for physical and chemical parameters and bacteria are being met. Water quality data collected provide the information necessary to demonstrate compliance with the water quality standards.

1. The Discharger shall conduct offshore water quality monitoring at RSW-001, RSW-002, RSW-003, RSW-004, and RSW-005 annually using a CTD profiler as follows:

**Table E-5. Offshore Receiving Water Monitoring Requirements**

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Dissolved oxygen	mg/L	continuous profile <sup>22</sup>	Annually	<sup>23</sup>
Temperature	°C	continuous profile <sup>22</sup>	Annually	<sup>23</sup>
Salinity	ppt	continuous profile <sup>22</sup>	Annually	<sup>23</sup>
Transmissivity	% transmittance	continuous profile <sup>22</sup>	Annually	<sup>23</sup>
Chlorophyll a	µg/L	continuous profile <sup>22</sup>	Annually	<sup>23</sup>
pH	pH units	continuous profile <sup>22</sup>	Annually	<sup>23</sup>
Total Residual Chlorine	mg/L	Grabs at 0.5 meters below surface at RSW-002 only	Annually	<sup>23</sup>

<sup>22</sup> Depth profile measurements shall be obtained using multiple sensors to measure parameters through the entire water column (from the surface to as close to the bottom as practicable).

<sup>23</sup> Pollutants shall be analyzed using the analytical methods described in 40 CFR § 136; where no methods are specified for a given pollutant, by methods approved by this Regional Water Board, the State Water Board, and USEPA Region 9. For any pollutant whose effluent limitation is lower than all the MLs specified in Appendix II of the Ocean Plan, the analytical method with the lowest ML must be selected.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Visual observations <sup>24</sup>	---	---	Annually	---

Water quality methods and protocols shall follow those described in the most current edition of the *Field Operations Manual for Marine Water Column, Benthic, and Trawl Monitoring in Southern California*. Data shall be analyzed to approximate the typical wastewater plume movement and data under different seasonal and weather conditions.

2. To determine compliance with ASBS requirements, the Discharger shall monitor a single down-current location, at the first trapping normal depth, to demonstrate that natural water quality is not altered in the ASBS outside the exclusion zone (within 1000 feet of the initial point of discharge) when compared to the unaffected reference site. Only one of the RSW locations (RSW-001, RSW-002, RSW-003, RSW-004, or RSW-005) shall be sampled to determine compliance, depending on the direction of the current at the time of sample collection. The selected station must be down-current of the discharge point. Regional monitoring data may be reported for the reference site except for dissolved oxygen and pH, which shall be sampled separately at a single up-current location from the RSW. Monitoring results for total residual chlorine and visual observations at the selected down-current RSW location shall be reported in the quarterly self-monitoring report. The Discharger shall conduct the following offshore water quality monitoring twice per permit cycle at a single down-current RSW location and a single up-current reference location concurrent with the effluent monitoring:

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<sup>24</sup> Observations of wind speed and direction, weather, current direction, and tidal condition (high/low) shall be recorded at the time receiving water samples are collected. Receiving water observations of any discoloration, turbidity, odor, and unusual or abnormal amounts of floating or suspended matter in the water or on the beach, rocks, jetties, or beach structures, shall be made and recorded at stations. The character and extent of such matter shall be described. The dates, times, and depths of sampling and these observations shall also be reported. Recreational use at time of sampling, within a 100-meter radius of each sample location, shall also be recorded and submitted with results. Recreational uses include, but are not limited to, swimming, wading, water-skiing, diving, surfing, and fishing.

**Table E-6. ASBS Compliance Monitoring Requirements**

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Arsenic	µg/L	Grab	2x/permit cycle	25
Cadmium	µg/L	Grab	2x/permit cycle	25
Chromium (VI)	µg/L	Grab	2x/permit cycle	25
Copper	µg/L	Grab	2x/permit cycle	25
Lead	µg/L	Grab	2x/permit cycle	25
Mercury <sup>26</sup>	µg/L	Grab	2x/permit cycle	25
Nickel	µg/L	Grab	2x/permit cycle	25
Selenium	µg/L	Grab	2x/permit cycle	25
Silver	µg/L	Grab	2x/permit cycle	25
Zinc	µg/L	Grab	2x/permit cycle	25
Cyanide	µg/L	Grab	2x/permit cycle	25
Total Residual Chlorine	mg/L	Grab	2x/permit cycle	25
Ammonia Nitrogen	mg/L	Grab	2x/permit cycle	25
Toxicity, Chronic	Pass or Fail (TST)	Grab	2x/permit cycle	25
Phenolic compounds (non-chlorinated) <sup>27</sup>	µg/L	Grab	2x/permit cycle	25
Phenolic compounds (chlorinated) <sup>27</sup>	µg/L	Grab	2x/permit cycle	25
Endosulfan <sup>27</sup>	µg/L	Grab	2x/permit cycle	25
Endrin	µg/L	Grab	2x/permit cycle	25
HCH <sup>27</sup>	µg/L	Grab	2x/permit cycle	25
Radioactivity (including gross alpha, gross beta, combined radium-226 & radium-228, tritium, strontium-90 and uranium) <sup>28</sup>	pCi/L	Grab	2x/permit cycle	25
Acrolein	µg/L	Grab	2x/permit cycle	25

<sup>25</sup> Pollutants shall be analyzed using the analytical methods described in 40 CFR § 136; where no methods are specified for a given pollutant, by methods approved by this Regional Water Board, the State Water Board, and USEPA Region 9. For any pollutant whose effluent limitation is lower than all the MLs specified in Appendix II of the Ocean Plan, the analytical method with the lowest ML must be selected.

<sup>26</sup> USEPA Method 1631E, with a quantitation level of 0.5 ng/L, shall be used to analyze total mercury. If an alternative method with an equivalent or more sensitive method detection limit is approved in 40 CFR 136, the Discharger may use that method in lieu of USEPA Method 1631E.

<sup>27</sup> See Attachment A for definition of terms.

<sup>28</sup> Analyze these radiochemicals by the following USEPA methods: method 900.0 for gross alpha and gross beta, method 903.0 or 903.1 for radium-226, method 904.0 for radium-228, method 906.0 for tritium, method 905.0 for strontium-90, and method 908.0 for uranium. Analysis for combined radium-226 & 228 shall be conducted only if gross alpha and gross beta results for the same sample exceed 15 pCi/L or 50 pCi/L, respectively. If radium-226 & 228 exceeds the stipulated criteria, then analyze for tritium, strontium-90, and uranium.

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Antimony	µg/L	Grab	2x/permit cycle	25
Bis(2-chloroethoxy) methane	µg/L	Grab	2x/permit cycle	25
Bis(2-chloroisopropyl) ether	µg/L	Grab	2x/permit cycle	25
Chlorobenzene	µg/L	Grab	2x/permit cycle	25
Chromium (III)	µg/L	Grab	2x/permit cycle	25
Di-n-butyl phthalate	µg/L	Grab	2x/permit cycle	25
Dichlorobenzenes <sup>27</sup>	µg/L	Grab	2x/permit cycle	25
Diethyl Phthalate	µg/L	Grab	2x/permit cycle	25
Dimethyl Phthalate	µg/L	Grab	2x/permit cycle	25
4,6-dinitro-2-methylphenol	µg/L	Grab	2x/permit cycle	25
2,4-dinitrophenol	µg/L	Grab	2x/permit cycle	25
Ethylbenzene	µg/L	Grab	2x/permit cycle	25
Fluoranthene	µg/L	Grab	2x/permit cycle	25
Hexachlorocyclopentadiene	µg/L	Grab	2x/permit cycle	25
Nitrobenzene	µg/L	Grab	2x/permit cycle	25
Thallium	µg/L	Grab	2x/permit cycle	25
Toluene	µg/L	Grab	2x/permit cycle	25
Tributyltin	ng/L	Grab	2x/permit cycle	25
1,1,1-Trichloroethane	µg/L	Grab	2x/permit cycle	25
Acrylonitrile	µg/L	Grab	2x/permit cycle	25
Aldrin	µg/L	Grab	2x/permit cycle	25
Benzene	µg/L	Grab	2x/permit cycle	25
Benzidine	µg/L	Grab	2x/permit cycle	25
Beryllium	µg/L	Grab	2x/permit cycle	25
Bis(2-chloroethyl) ether	µg/L	Grab	2x/permit cycle	25
Bis(2-ethylhexyl) phthalate	µg/L	Grab	2x/permit cycle	25
Carbon Tetrachloride	µg/L	Grab	2x/permit cycle	25
Chlordane <sup>27</sup>	µg/L	Grab	2x/permit cycle	25
Chlorodibromomethane	µg/L	Grab	2x/permit cycle	25
Chloroform	µg/L	Grab	2x/permit cycle	25
DDT <sup>27</sup>	µg/L	Grab	2x/permit cycle	25
1,4-dichlorobenzene	µg/L	Grab	2x/permit cycle	25
3,3'-dichlorobenzidine	µg/L	Grab	2x/permit cycle	25
1,2-dichloroethane	µg/L	Grab	2x/permit cycle	25
1,1-dichloroethylene	µg/L	Grab	2x/permit cycle	25
Dichlorobromomethane	µg/L	Grab	2x/permit cycle	25
Dichloromethane	µg/L	Grab	2x/permit cycle	25
1,3-Dichloropropene	µg/L	Grab	2x/permit cycle	25

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Dieldrin	µg/L	Grab	2x/permit cycle	25
2,4-dinitrotoluene	µg/L	Grab	2x/permit cycle	25
1,2-diphenylhydrazine	µg/L	Grab	2x/permit cycle	25
Halomethanes <sup>27</sup>	µg/L	Grab	2x/permit cycle	25
Heptachlor	µg/L	Grab	2x/permit cycle	25
Heptachlor Epoxide	µg/L	Grab	2x/permit cycle	25
Hexachlorobenzene	µg/L	Grab	2x/permit cycle	25
Hexachlorobutadiene	µg/L	Grab	2x/permit cycle	25
Hexachloroethane	µg/L	Grab	2x/permit cycle	25
Isophorone	µg/L	Grab	2x/permit cycle	25
N-Nitrosodimethylamine	µg/L	Grab	2x/permit cycle	25
N-Nitrosodi-n-propylamine	µg/L	Grab	2x/permit cycle	25
N-Nitrosodiphenylamine	µg/L	Grab	2x/permit cycle	25
PAHs <sup>27</sup>	µg/L	Grab	2x/permit cycle	25
PCBs as Aroclors <sup>27</sup>	µg/L	Grab	2x/permit cycle	25
TCDD Equivalents <sup>27, 29</sup>	pg/L	Grab	2x/permit cycle	25
1,1,2,2-Tetrachloroethane	µg/L	Grab	2x/permit cycle	25
Tetrachloroethylene	µg/L	Grab	2x/permit cycle	25
Toxaphene	µg/L	Grab	2x/permit cycle	25
Trichloroethylene	µg/L	Grab	2x/permit cycle	25
1,1,2-Trichloroethane	µg/L	Grab	2x/permit cycle	25
2,4,6-Trichlorophenol	µg/L	Grab	2x/permit cycle	25
Vinyl chloride	µg/L	Grab	2x/permit cycle	25
Oil and Grease	mg/L	Grab	2x/permit cycle	25
Total Suspended Solids	mg/L	Grab	2x/permit cycle	25
Settleable Solids	mL/L	Grab	2x/permit cycle	25
Turbidity	NTU	Grab	2x/permit cycle	25
pH	Units	Grab	2x/permit cycle	25
Dissolved oxygen	mg/L	Grab	2x/permit cycle	25
Nitrate	°C	Grab	2x/permit cycle	25
Phosphate	ppt	Grab	2x/permit cycle	25

- The Discharger shall monitor bacteria and ammonia at five offshore receiving water monitoring locations including RSW-001, RSW-002, RSW-003, RSW-004, and RSW-005, and bacteria at two shoreline bacteria monitoring locations including SBM-001 and SBM-002 (see Figure E-1 and Table E-1) as follows:

<sup>29</sup> USEPA Method 1613 shall be used to analyze TCDD equivalents. If an alternative method with an equivalent or more sensitive method detection limit is approved in 40 CFR 136, the Discharger may use that method in lieu of USEPA Method 1613.

**Table E-7. Additional Offshore and Shoreline Receiving Water Monitoring Requirements**

Parameter	Units	Sample Type <sup>30</sup>	Minimum Sampling Frequency	Required Analytical Test Method
Total Coliform	MPN or CFU/100 mL	Grab, surface, and mid-depth and near bottom <sup>31</sup>	Monthly	32
Fecal Coliform	MPN or CFU/100 mL	Grab, surface, and mid-depth and near bottom <sup>31</sup>	Monthly	32
<i>Enterococcus</i>	MPN or CFU/100 mL	Grab, surface, and mid-depth and near bottom <sup>31</sup>	Monthly	32
Ammonia Nitrogen	mg/L	Grab, surface, and mid-depth and near bottom <sup>31</sup>	Annually	32

## B. Benthic Infauna Sediment Chemistry Monitoring Requirements

### 1. Local Benthic Trends Survey

This survey is designed to determine if benthic conditions under the influence of the discharge are changing over time. The data collected are used for regular assessment of trends in sediment contamination and for drawing inferences concerning the relationship between effluent-derived alteration of the benthic habitat and patterns in infaunal community structure. This data is also used to determine the status of marine aquatic life to satisfy ASBS requirements.

The Discharger shall monitor the eight subtidal and one intertidal benthic monitoring stations at SM-001, SM-002, SM-003, SM-004, SM-005, SM-006, SM-007, SM-008, and IBM-001 (see Figure E-1 and Table 1) once per permit cycle as follows:

**Table E-8. Benthic Infauna and Sediment Chemistry Monitoring Requirements**

Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Benthic Infauna Community <sup>33</sup>	--	0.1 square meter Van Veen Grab	Once per permit cycle	--
Total Organic Carbon	mg/kg	0.1 square meter Van Veen Grab (upper 2 centimeters)	Once per permit cycle	32

<sup>30</sup> Discrete sampling for ammonia nitrogen, fecal coliform, total coliform, and *Enterococcus* shall be performed below the surface within 1 meter (3.1 feet) and at 15 meters (49.2 feet), 30 meters (98.4 feet), and 45 meters (147.6 feet), or as deep as practicable for those stations located at depths less than 45 meters.

<sup>31</sup> Bottom sampling shall be conducted 2 meters (6.6 feet) above the seabed.

<sup>32</sup> Pollutants shall be analyzed using the analytical methods described in 40 CFR § 136; where no methods are specified for a given pollutant, by methods approved by this Regional Water Board, the State Water Board, and USEPA Region 9. For any pollutant whose effluent limitation is lower than all the MLs specified in Appendix II of the Ocean Plan, the analytical method with the lowest ML must be selected.

<sup>33</sup> Community analysis of benthic infauna shall include the number of species, the number of individuals per species, the total numerical abundance per station, the benthic response index (BRI) and biological indices, plus the analysis shall utilize appropriate regression analyses, parametric and nonparametric statistics, and multivariate techniques or other appropriate analytical techniques.



Parameter	Units	Sample Type	Minimum Sampling Frequency	Required Analytical Test Method
Organic Nitrogen	mg/kg	0.1 square meter Van Veen Grab (upper 2 centimeters)	Once per permit cycle	32
Grain Size	Phi size	0.1 square meter Van Veen Grab (upper 2 centimeters)	Once per permit cycle	32

Intertidal survey methods shall be those used by the Partnership for Interdisciplinary Studies of Coastal Oceans (PISCO) for their biodiversity surveys. A single intertidal site at IBM-001 (see Figure E-1 and Table E-1) shall be surveyed as close to the discharge as possible and compared to a reference location at San Clemente Island approved through the regional monitoring program.

Subtidal surveys and sampling at SM-001 through SM-008 (See Figure E-1 and Table E-1) may include rocky reef and/or soft-bottom habitats as appropriate to the actual benthic conditions at the edge of the exclusion zone (within 1,000 feet of the initial point of discharge). The far-field samples at SM-006 through SM-008 shall be collected from a comparable habitat to the near-field samples at SM-001 through SM-005. Subtidal soft-bottom sampling shall conform with the methods used in the SCCWRP Southern California Bight regional surveys. Subtidal rocky reef surveys shall be non-destructive and conform to the methods used in the SCCWRP Southern California Bight regional surveys.

Benthic infauna monitoring shall be conducted once per permit cycle during the month of July. One sample shall be collected at each station for benthic infaunal community analysis. The entire contents of each sample shall be passed through a 1.0-millimeter screen to retain the benthic organisms. Benthic sampling methods and protocols shall follow those described in the most current edition of the *Field Operations Manual for Marine Water Column, Benthic, and Trawl Monitoring in Southern California*. All organisms contained within the sample shall be identified to the lowest possible taxon and counted. The resulting data shall be used to describe community structure at each station.

## 2. Regional Benthic Survey

This regional survey is designed to determine 1) the extent, distribution, magnitude and trend of ecological change in soft-bottom benthic habitats within the Southern California Bight and 2) the relationship between biological response and contaminant exposure. The data collected will be used to assess the condition of the sea-floor environment and the health of biological communities in the Bight.

Regional surveys of benthic conditions occur every five years within the Southern California Bight and the 2018 regional monitoring effort is currently underway. The final survey design is determined cooperatively by participants represented on the Regional Steering Committee. The Discharger is encouraged to support the benthic surveys conducted as part of the Bight regional monitoring effort by participating in or performing the following activities:

- Participation on the Steering Committee
- Participation on relevant Technical Committees (e.g., Information Management, Field Methods & Logistics, Benthos, and Chemistry)
- Field sampling at sea
- Infaunal sample analysis
- Sediment chemistry analysis

Data management

**IX. OTHER MONITORING REQUIREMENTS**

**A. Special Study – Data for Plume Model Mixing Predictions**

State Water Board Ocean Unit staff applied data from the California Cooperative Oceanic Fisheries Investigations nearshore stations surveyed in the summers 2010 and 2011 to evaluate the minimum initial dilution for Discharge Point 002. Based on the results, State Water Board staff agreed with the original United States Navy (Navy) report suggesting 136 as the value for minimum initial dilution as defined in the 2009 California Ocean Plan for use in the Order.

However, neither the ambient data used by staff to model near-field mixing nor the ambient data used by the Navy's consultant represent actual site receiving water conditions. As a result, the Navy collected salinity and temperature data throughout the water column near the outfall in areas unaffected by the plume for two summers during the previous permit cycle. The Navy shall use the receiving water data collected and any additional data shall be collected as needed to evaluate the initial dilution of the discharge plume and to determine the appropriateness of the 136:1 dilution ratio. The Navy shall submit a dilution study work plan to the Regional Water Board for approval by the Executive Officer within 180 days of the effective date of this permit describing the timeline and procedures that will be used in the study. At a minimum, the work plan shall include the dilution model being used, a description of the sensitivity analysis, ambient conditions, and all model inputs.

**B. Outfall and Diffuser Inspection**

This survey is designed to ensure that the outfall structures are in serviceable condition and they can continue to be operated safely. The data collected will be used for a periodic assessment of the integrity of the outfall pipes and ballasting system.

The entire ocean outfall for Discharge Point 002 shall be externally inspected at a minimum of twice per permit cycle during the month of July or August of 2020 and 2022. Inspections shall include general observations and photographic/video graphic records of the exterior outfall pipes and the adjacent ocean bottom. The outfall shall be examined for plugs, leaks, and flow distribution. A visual inspection at and near the outfall system shall be conducted to determine the thickness of any "cloud" of unsettled solids, bottom flora and fauna, and any other biological and physical conditions. The pipes shall be visually inspected by a diver, manned submarine, or remotely operated vehicle. A summary report of the inspection findings shall be provided. This written report, augmented with video graphic and/or photographic images, will provide a description of the observed condition of the discharge pipes from shallow water to their respective termini. The final report shall be submitted to the Regional Water Board with the annual summary report on April 15.

**C. Biosolids and Sludge Management**

1. The Discharger shall comply with all Clean Water Act and regulatory requirements of 40 CFR § 257, 258, 501, and 503, including all applicable monitoring, recordkeeping, and reporting requirements.

**X. REPORTING REQUIREMENTS**

**A. General Monitoring and Reporting Requirements**

1. The Discharger shall comply with all Standard Provisions (Attachment D) related to monitoring, reporting, and recordkeeping.
2. If there is no discharge during any reporting period, the report shall so state.

3. Each monitoring report shall contain a separate section titled "Summary of Non-compliance" which discusses the compliance record and the corrective actions taken or planned that may be needed to bring the discharge into full compliance with waste discharge requirements. This section shall clearly list all non-compliance with discharge requirements as well as all excursions of effluent limitations.
4. The Discharger shall inform the Regional Water Board well in advance of any proposed construction or maintenance activity, or modification to the Federally-Owned Treatment Works (FOTW) that could potentially affect compliance with applicable requirements.
5. The date and time of sampling (as appropriate) shall be reported with the analytical values determined.
6. The laboratory conducting analyses shall be certified by ELAP, in accordance with CWC section 13176, or approved by the Regional Water Board Executive Officer, in consultation with the State Water Board's Quality Assurance Program, and USEPA for that particular parameter and must include quality assurance/quality control (QA/QC) data in their reports. A copy of the laboratory certification shall be provided each time a new/renewal certification is obtained from ELAP and must be submitted with the annual summary report. Each monitoring report must affirm in writing that: "All analyses were conducted at a laboratory certified for such analyses by the California Department of Public Health, or approved by the Regional Water Board Executive Officer (in consultation with the State Water Board's Quality Assurance Program) and USEPA, and in accordance with current USEPA guideline procedures or as specified in this MRP."
7. The actual depths and coordinates of the receiving water stations sampled shall also be reported.
8. Non-detect levels reported for SCI WWTP's effluent are generally higher than effluent limitations or water quality objectives for DDT, chlordane, PCBs and PAHs. Therefore, the Discharger shall strive for lower analytical detection levels than those specified in Appendix II of the 2015 Ocean Plan.
9. Upon request by the Discharger, the Regional Water Board, in consultation with the State Water Board's Quality Assurance Program and/or USEPA, may establish an ML that is not contained in Appendix II of the 2015 Ocean Plan, to be included in the Discharger's NPDES permit, in any of the following situations:
  - a. When the pollutant under consideration is not included in Appendix II;
  - b. When the Discharger agrees to use a test method that is more sensitive than those specified in 40 CFR § 136 (most recent revision);
  - c. When the Discharger agrees to use an ML lower than those listed in Appendix II;
  - d. When the Discharger demonstrates that the calibration standard matrix is sufficiently different from that used to establish the ML in Appendix II and proposes an appropriate ML for their matrix; or
  - e. When the Discharger uses a method whose quantification practices are not consistent with the definition of an ML. Examples of such methods are the USEPA-approved method 1613 for dioxins and furans, method 1624 for volatile organic substances, and method 1625 for semi-volatile organic substances. In such cases, the Discharger, Regional Water Board, State Water Board and USEPA shall agree on a lowest quantifiable limit, and that limit will substitute for the ML for reporting and compliance determination purposes.

10. Records and reports of marine monitoring surveys conducted to meet receiving water monitoring requirements shall include, at a minimum, the following information:
  - a. A description of climatic and receiving water characteristics at the time of sampling (weather observations, unusual or abnormal amounts of floating debris, discoloration, wind speed and direction, swell or wave action, time of sampling or measurements, tidal stage and height, etc.).
  - b. The date, exact place and description of sampling stations, including differences unique to each station (e.g., date, time, station location, depth, and sample type).
  - c. A list of the individuals participating in field collection of samples or data and description of the sample collection and preservation procedures used in the various surveys.
  - d. A description of the specific method used for laboratory analysis, the date(s) the analyses were performed and the individuals participating in these analyses.
  - e. An in-depth discussion of the results of the survey. All tabulations and computations shall be explained.
11. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with this Order.
12. The Discharger shall attach a cover letter to the monitoring reports. The information contained in the cover letter shall clearly identify violations of the Order; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.

#### **B. Self-Monitoring Reports (SMRs)**

1. The Discharger shall electronically submit SMRs using the State Water Board's California Integrated Water Quality System (CIWQS) Program website at [http://www.waterboards.ca.gov/water\\_issues/programs/ciwqs/](http://www.waterboards.ca.gov/water_issues/programs/ciwqs/). The CIWQS website will provide additional information for SMR submittal in the event there will be a planned service interruption for electronic submittal.
2. The Discharger shall report in the SMR the results for all monitoring specified in this Order. The Discharger shall submit monthly, quarterly, semiannual, and annual SMRs including the results of all required monitoring using USEPA-approved test methods or other test methods specified in this Order. SMRs are to include all new monitoring results obtained since the last SMR was submitted. If the Discharger monitors any pollutant more frequently than required by this Order, the results of this monitoring shall be included in the calculations and reporting of the data submitted in the SMR.
3. Monitoring periods and reporting for all required monitoring shall be completed according to the following schedule, except where specific monitoring periods and reporting dates are required elsewhere in the Order:

**Table E-9. Monitoring Periods and Reporting Schedule**

Sampling Frequency	Monitoring Period Begins	Monitoring Period	SMR Due Date
Continuous	Order effective date	All	Submit with quarterly SMR
Hourly	Order effective date	Hourly	Submit with quarterly SMR
Daily	Order effective date	(Midnight through 11:59 PM) or any 24-hour period	Submit with quarterly SMR

Sampling Frequency	Monitoring Period Begins	Monitoring Period	SMR Due Date
		that reasonably represents a calendar day for purposes of sampling.	
Weekly	Sunday following Order effective date or on Order effective date if on a Sunday	Sunday through Saturday	Submit with quarterly SMR
Monthly	First day of calendar month following permit effective date or on permit effective date if that date is first day of the month	1 <sup>st</sup> day of calendar month through last day of calendar month	Submit with quarterly SMR
Quarterly	Closest of January 1, April 1, July 1, or October 1 following (or on) permit effective date	January 1 to March 31 April 1 to June 30 July 1 to September 30 October 1 to December 31	May 15 August 15 November 15 February 15
Semiannually	Closest of January 1 or July 1 following (or on) permit effective date	January 1 to June 30 July 1 to December 31	August 15 February 15
Annually	January 1 following (or on) permit effective date	January 1 through December 31	April 15

4. **Reporting Protocols.** The Discharger shall report with each sample result the applicable reported Minimum Level (reported ML, also known as the Reporting Level, or RL) and the current Method Detection Limit (MDL), as determined by the procedure in 40 CFR § 136.

The Discharger shall report the results of analytical determinations for the presence of chemical constituents in a sample using the following reporting protocols:

- Sample results greater than or equal to the reported ML shall be reported as measured by the laboratory (i.e., the measured chemical concentration in the sample).
- Sample results less than the reported ML, but greater than or equal to the laboratory's MDL, shall be reported as "Detected, but Not Quantified," or DNQ. The estimated chemical concentration of the sample shall also be reported.

For the purposes of data collection, the laboratory shall write the estimated chemical concentration next to DNQ. The laboratory may, if such information is available, include numerical estimates of the data quality for the reported result. Numerical estimates of data quality may be percent accuracy ( $\pm$  a percentage of the reported value), numerical ranges (low to high), or any other means considered appropriate by the laboratory.

- Sample results less than the laboratory's MDL shall be reported as "Not Detected," or ND.
  - Dischargers are to instruct laboratories to establish calibration standards so that the ML value (or its equivalent if there is differential treatment of samples relative to calibration standards) is the lowest calibration standard. At no time is the Discharger to use analytical data derived from extrapolation beyond the lowest point of the calibration curve.
5. **Compliance Determination.** Compliance with effluent limitations for reportable pollutants shall be determined using sample reporting protocols defined above and

Attachment A of this Order. For purposes of reporting and administrative enforcement by the Regional Water Board and State Water Board, the Discharger shall be deemed out of compliance with effluent limitations if the concentration of the reportable pollutant in the monitoring sample is greater than the effluent limitation and greater than or equal to the reported Minimum Level (ML).

6. **Multiple Sample Data.** When determining compliance with a measure of central tendency (arithmetic mean, geometric mean, median, etc.) of multiple sample analyses and the data set contains one or more reported determinations of “Detected, but Not Quantified” (DNQ) or “Not Detected” (ND), the Discharger shall compute the median in place of the arithmetic mean in accordance with the following procedure:
  - a. The data set shall be ranked from low to high, ranking the reported ND determinations lowest, DNQ determinations next, followed by quantified values (if any). The order of the individual ND or DNQ determinations is unimportant.
  - b. The median value of the data set shall be determined. If the data set has an odd number of data points, then the median is the middle value. If the data set has an even number of data points, then the median is the average of the two values around the middle unless one or both of the points are ND or DNQ, in which case the median value shall be the lower of the two data points where DNQ is lower than a value and ND is lower than DNQ.
7. The Discharger shall submit SMRs in accordance with the following requirements:
  - a. The Discharger shall arrange all reported data in a tabular format. The data shall be summarized to clearly illustrate whether the facility is operating in compliance with interim and/or final effluent limitations. The Discharger is not required to duplicate the submittal of data that is entered in a tabular format within CIWQS. When electronic submittal of data is required and CIWQS does not provide for entry into a tabular format within the system, the Discharger shall electronically submit the data in a tabular format as an attachment.
  - b. The Discharger shall attach a cover letter to the SMR. The information contained in the cover letter shall clearly identify violations of the waste discharge requirements; discuss corrective actions taken or planned; and the proposed time schedule for corrective actions. Identified violations must include a description of the requirement that was violated and a description of the violation.

#### C. Discharge Monitoring Reports (DMRs)

DMRs are USEPA reporting requirements. The Discharger shall electronically certify and submit DMRs together with SMRs using Electronic Self-Monitoring Reports module eSMR 2.5 or any upgraded version. Electronic DMR submittal shall be in addition to electronic SMR submittal. Information about electronic DMR submittal is available at the DMR website at: [http://www.waterboards.ca.gov/water\\_issues/programs/discharge\\_monitoring](http://www.waterboards.ca.gov/water_issues/programs/discharge_monitoring).

#### D. Other Reports

1. The Discharger shall report the results of any special studies, acute and chronic toxicity testing, TRE/TIE, BMPs, PMP, and Pollution Prevention Plan required by Special Provisions – VI.C. The Discharger shall submit reports in compliance with SMR reporting requirements described in subsection X.B above.
2. Hauling Reports for Non-Biosolids Wastes
  - a. In the event that wastes (not including biosolids) are transported to a different disposal site during the reporting period, the following shall be reported:

- i. Types of wastes and quantity of each type;
    - ii. Name and either the address or the State registration number for each hauler of wastes (or the method of transport if other than by hauling); and
    - iii. Location of the final point(s) of disposal for each type of wastes.
  - b. If no wastes are transported off site during the reporting period, a statement to that effect shall be submitted.
3. Annual Summary Report

By April 15 of each year, the Discharger shall submit an annual report containing a discussion of the previous year's influent/effluent analytical results (including the average and peak flow for the year). The annual report shall contain an overview of any plans for upgrades to the treatment plant's collection system, the treatment processes, the outfall system, or any changes that may affect the quality of the final effluent. The Discharger shall submit annual reports to the Regional Water Board in accordance with the requirements described in subsection X.B.7. above.
4. Receiving Water Monitoring Report

An annual summary of the receiving water monitoring data collected during each sampling year (January – December) shall be prepared and submitted to the Regional Water Board by August 1<sup>st</sup> of the following year. This annual summary shall include a brief discussion of the monitoring results.

A detailed Biennial Receiving Water Monitoring Assessment Report of the data collected during the two previous calendar sampling years (January-December) shall be prepared and submitted so that it is received by the Regional Water Board by August 1<sup>st</sup> of every other year. This report shall include an annual data summary, a description of the nearfield zone, and an in-depth analysis of the biological and chemical data following recommendations in *Design of 301(h) Monitoring Programs for Municipal Wastewater Discharges to Marine Water* (EPA, November 1982; 430/982-010; pages 74-91) and the Model Monitoring Program Guidance Document (Schiff, K.C., J.S. Brown and S.B. Weisberg, 2001. *Model Monitoring Program for Large Ocean Dischargers in Southern California*. SCCWRP Tech. Rep #357. Southern California Coastal Water Research Project, Westminster, CA. 101 pp.). Data shall be tabulated, summarized, graphed where appropriate, analyzed, interpreted, and generally presented in such a way as to facilitate ready understanding of its significance. Spatial and temporal trends shall be examined and compared. The relationship of physical and chemical parameters shall be evaluated. See also Section VIII of this MRP. All receiving water monitoring data shall be submitted in accordance with the California Environmental Data Exchange Network (CEDEN).

The first assessment report shall be due August 1, 2019 and cover the sampling periods from January 2017 through December 2018. Subsequent reports shall be due August 1, 2021, and August 1, 2023, to cover sampling periods from January 2019 through December 2020, and January 2021 through December 2022, respectively.
5. The Discharger shall submit to the Regional Water Board, together with the first monitoring report required by this permit, a list of all chemicals and proprietary additives which could affect this waste discharge, including quantities of each. Any subsequent changes in types and/or quantities shall be reported promptly.

6. Outfall Inspection Report

By April 15 following the year the outfall inspection is conducted, the Discharger shall prepare and submit a summary report of the outfall inspection findings to the Regional Water Board. This written report, augmented with videographic and/or photographic images, and shall provide a description of the observed external condition of the discharge pipes from shallow water to their respective termini.

7. Technical Report on Preventive and Contingency Plans

The Regional Water Board requires the Discharger to file with the Regional Water Board, within 90 days after the effective date of this Order, a technical report on its preventive (failsafe) and contingency (cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. The technical report should:

- a. Identify the possible sources of accidental loss, untreated waste bypass, and contaminated drainage. Loading and storage areas, power outage, waste treatment unit outage, and failure of process equipment, tanks, and pipes should be considered.
- b. Evaluate the effectiveness of present facilities and procedures and state when they become operational.
- c. Describe facilities and procedures needed for effective preventive and contingency plans.
- d. Predict the effectiveness of the proposed facilities and procedures and provide an implementation schedule contingent on interim and final dates when they will be constructed, implemented, or operational.



## ATTACHMENT F – FACT SHEET

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## ATTACHMENT F – FACT SHEET

As described in section II.B of this Order, the Regional Water Board incorporates this Fact Sheet as findings of the Regional Water Board supporting the issuance of this Order. This Fact Sheet includes the legal requirements and technical rationale that serve as the basis for the requirements of this Order.

This Order has been prepared under a standardized format to accommodate a broad range of discharge requirements for Dischargers in California. Only those sections or subsections of this Order that are specifically identified as “not applicable” have been determined not to apply to this Discharger. Sections or subsections of this Order not specifically identified as “not applicable” are fully applicable to this Discharger.

### I. PERMIT INFORMATION

The following table summarizes administrative information related to the facility.

**Table F-1. Facility Information**

<b>WDID</b>	4B190703003
<b>Discharger</b>	United States Navy (Navy)
<b>Name of Facility</b>	San Clemente Island Wastewater Treatment Plant
<b>Facility Address</b>	Navy Auxiliary Landing Field
	San Clemente Island, CA
	Los Angeles County
<b>Facility Contact, Title and Phone</b>	Thomas Niday, Utilities System Operator, (619) 524-9125
<b>Authorized Person to Sign and Submit Reports</b>	Jason Golumbskie-Jones, Installation Environmental Program Director, (619) 545-3429
<b>Mailing Address</b>	Naval Base Coronado, PO Box 357088, San Diego, CA 92135
<b>Billing Address</b>	SAME
<b>Type of Facility</b>	Federally-owned Treatment Works (FOTW)
<b>Major or Minor Facility</b>	Minor
<b>Threat to Water Quality</b>	1
<b>Complexity</b>	B
<b>Pretreatment Program</b>	No
<b>Recycling Requirements</b>	Producer and User
<b>Facility Permitted Flow</b>	0.025 million gallons per day (mgd) monthly average
<b>Facility Design Flow</b>	0.06 mgd – Secondary Treatment Plant
	0.03 mgd – Tertiary Treatment Plant
<b>Watershed</b>	San Clemente Island Watershed
<b>Receiving Water</b>	Pacific Ocean
<b>Receiving Water Type</b>	Ocean waters

- A. The United States Navy (hereinafter Discharger or Navy) is the owner and operator of the San Clemente Island Wastewater Treatment Plant (hereinafter Facility or SCI WWTP), a Federally-Owned Treatment Works (FOTW).

For the purposes of this Order, references to the “discharger” or “permittee” in applicable federal and state laws, regulations, plans, or policy are held to be equivalent to references to the Discharger herein.

- B. The Facility discharges wastewater to the Pacific Ocean, a water of the United States. The Discharger was previously regulated by Order No. R4-2013-0111 and National Pollutant

Discharge Elimination System (NPDES) Permit No. CA0110175 adopted on July 11, 2013, expired on August 30, 2018, and administratively extended until the adoption of this Order. Attachment B provides a map of the area around the Facility. Attachment C provides a flow schematic of the Facility.

- C. The Discharger filed a report of waste discharge and submitted an application for reissuance of its waste discharge requirements (WDRs) and NPDES permit on March 02, 2018. Supplemental information was requested on March 07 and May 16, 2018 and received on May 02 and June 19, 2018. The application was deemed complete on July 11, 2018. A site visit was conducted on August 29, 2018, to observe operations and collect additional data to develop permit limitations and requirements for waste discharge.
- D. Regulations at Title 40 of the Code of Federal Regulations (40 CFR) § 122.46 limit the duration of NPDES permits to a fixed term not to exceed five years. Accordingly, Table 3 of this Order limits the duration of the discharge authorization. However, pursuant to California Code of Regulations, title 23, section 2235.4, the terms and conditions of an expired permit are automatically continued pending reissuance of the permit if the Discharger complies with all federal NPDES requirements for continuation of expired permits.

## II. FACILITY DESCRIPTION

### A. Description of Wastewater Treatment and Controls

1. The Discharger owns and operates the SCI WWTP, located approximately 1,500 feet east of Wilson Cove and discharges a maximum monthly average of 0.025 mgd of treated wastewater to the Pacific Ocean, a water of the United States. This maximum permitted flow is a result of discussions between the Navy and the State Water Board regarding discharge to a designated Area of Special Biological Significance (ASBS).
2. The facility receives sewage from a separated sanitary sewer serving a population of approximately 500 people, except in cases when extra personnel are present due to training on the island. In those cases, wastewater from the portable toilets may be delivered directly to the headworks of the treatment system. Only residential wastes are discharged to the sanitary sewer and all industrial drains have been capped with concrete. Industrial wastes (used oil, used antifreeze, used batteries, etc.) are stored onsite and are manifested off the island via barge and properly disposed of in accordance with federal and state regulations. There is no industry on the island and most of the industrial waste generated is associated with facility and vehicle maintenance. Septage from the 22 septic tanks on the island may also be delivered directly to the headworks on an emergency basis to avoid or mitigate overflows. The septic tanks are routinely pumped by a contractor and septage transported offsite by barge to a City of San Diego treatment works pump station.
3. The Facility's treatment system consists of a package-type secondary-23 wastewater treatment plant, built in 1979, and a recently installed package-type tertiary wastewater treatment plant. The influent flows through a comminutor and then into a primary equalization tank. The two plants are hydraulically connected at this point and the flow may be directed to either plant once the tertiary plant is in operation. The secondary-23 treatment plant is currently the only treatment plant in operation at the Facility. It has a design capacity of 0.060 million gallons per day (mgd) and consists of comminution, equalization, activated sludge extended aeration, clarification, chlorination, and dechlorination. The tertiary treatment plant is not currently in operation but the Discharger anticipates having the treatment plant online within the next year. It has a design capacity of 0.030 mgd and consists of the Smith and Loveless Titan Membrane Bio Reactor Package, which includes fine screening, flow equalization, sludge storage, anoxic zones, an aeration zone including an immersion-type membrane module of flat

sheet polyvinylidene difluoride (PVDF), a filtration zone, chlorine contact, and dechlorination. The membrane is the Membray® brand manufactured by Toray and is listed as an approved technology by the State Water Resources Control Board, Division of Drinking Water, in their *Alternative Treatment Technology Report for Recycled Water* published in 2014. Treated wastewater, prior to dechlorination, is pumped to either a tertiary or a secondary-23 recycled water storage tank, depending on water quality. The sludge is either dried in drying beds or bagged for dewatering over plastic pallets. The dried solids are sent to the landfill on San Clemente Island for disposal and regulated under Order No. R4-2010-0045, adopted by the Regional Water Board on March 04, 2010. A process flow diagram of the facility consisting of both treatment plants is depicted in Attachment C.

4. The Navy intends to operate the tertiary treatment plant exclusively, except during startup and maintenance of the tertiary plant, and during emergencies. The secondary plant will only be operated in emergency situations or when the tertiary plant must be shut down for maintenance.
5. Consistent with the ASBS exclusion area, this Order authorizes the Navy to discharge a maximum monthly average of 0.025 mgd of treated wastewater to the Pacific Ocean.

#### B. Discharge Points and Receiving Waters

The Facility has two discharge points located 250 feet east of the Facility on the northeast end of the island approximately 1,000 feet south of Wilson Cove. Discharge Point 001 is a shoreline discharge and has been decommissioned. Discharge Point 002 is a submerged, 450-foot long, 3.6-inch diameter, outfall located 70 feet below the ocean's surface. The discharge point is within the ASBS exclusion area because it is within a 1,000-foot radius from the original end-of-pipe (State Water Board Resolution 77-11).

#### C. Summary of Existing Requirements and Self-Monitoring Report (SMR) Data

Effluent limitations/Discharge Specifications contained in the existing Order for discharges from Discharge Point 002 (Monitoring Location EFF-001) and representative monitoring data from the term of the previous Order are as follows:

**Table F-2. Historic Effluent Limitations and Monitoring Data**

Parameter	Units	Effluent Limitation				Monitoring Data (From January 2013 – March 2018)		
		Average Monthly	Average Weekly	Maximum Daily	Instant- aneous Maximum	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
Conventional/Non-Conventional								
Biochemical Oxygen Demand (BOD)	mg/L	30	45	--	--	44.1	--	44.1
Total Suspended Solids (TSS)	mg/L	30	45	--	--	18.3	--	18.3
Oil & Grease	mg/L	25	40	--	75	1.51	--	1.51
Settleable Solids	mL/L	1.0	1.5	--	3.0	<1	--	<1
Nitrate-N	mg/L	--	--	--	--	45.9	--	45.9
Nitrite-N	mg/L	--	--	--	--	0.592	--	0.592
pH	pH Unit	6.0 - 9.0				7.71	--	7.71
Temperature	°F	--	--	--	100	74.5	--	74.5
Turbidity	NTU	75	100	--	225	9.56	--	9.56

Parameter	Units	Effluent Limitation				Monitoring Data (From January 2013 – March 2018)		
		Average Monthly	Average Weekly	Maximum Daily	Instant- aneous Maximum	Highest Average Monthly Discharge	Highest Average Weekly Discharge	Highest Daily Discharge
Marine Aquatic Life Protection								
Arsenic	µg/L	--	--	--	--	8.07	--	8.07
Cadmium	µg/L	--	--	--	--	<0.2	--	<0.2
Chromium (VI)	µg/L	--	--	--	--	0.248 (DNQ)	--	0.248 (DNQ)
Copper	µg/L	--	--	--	--	251	--	251
Lead	µg/L	--	--	--	--	0.55 (DNQ)	--	0.55 (DNQ)
Mercury	µg/L	--	--	--	--	0.107 (DNQ)	--	0.107 (DNQ)
Nickel	µg/L	--	--	--	--	8.0	--	8.0
Selenium	µg/L	--	--	--	--	1.05	--	1.05
Silver	µg/L	--	--	--	--	<0.2	--	<0.2
Zinc	µg/L	--	--	--	--	2270	--	2270
Cyanide	µg/L	--	--	--	--	27.1	--	27.1
Total Residual Chlorine	µg/L	274	--	100	8200	15.4	--	15.4
Ammonia-N	mg/L	--	--	--	--	6.4	--	6.4
Phenolic Compounds (non-chlorinated)	µg/L	--	--	--	--	<11	--	<11
Phenolic Compounds (chlorinated)	µg/L	--	--	--	--	<11	--	<11
Endosulfan	µg/L	--	--	--	--	0.03 (DNQ)	--	0.03 (DNQ)
Endrin	µg/L	--	--	--	--	<0.011	--	<0.011
Hexachlorocyclohexane (HCH)	µg/L	--	--	--	--	0.48	--	0.48
Chronic Toxicity	TUc	--	--	137	--	270	--	270
Radioactivity								
Gross Alpha	pCi/L	--	--	--	--	12.4	--	12.4
Gross Beta	pCi/L	--	--	--	--	10.6	--	10.6
Human Health Toxicants – Noncarcinogens								
Acrolein	µg/L	--	--	--	--	<2	--	<2
Antimony	µg/L	--	--	--	--	1.91	--	1.91
Bis (2-Chloroethoxy) methane	µg/L	--	--	--	--	<11	--	<11
Bis (2-Chloroisopropyl) ether	µg/L	--	--	--	--	<11	--	<11
Chlorobenzene	µg/L	--	--	--	--	<1	--	<1
Chromium III	µg/L	--	--	--	--	0.719 (DNQ)	--	0.719 (DNQ)
Di-n-Butyl Phthalate	µg/L	--	--	--	--	<11	--	<11
Dichlorobenzenes	µg/L	--	--	--	--	<11	--	<11
Diethyl phthalate	µg/L	--	--	--	--	<11	--	<11
Dimethyl phthalate	µg/L	--	--	--	--	<11	--	<11